

## Deciphering pleiotropy: How complex genes are regulated to affect behaviour



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Feeding behaviour is a complex phenotype with a high degree of plasticity. Changes in the nutritional environment affect food-search behaviour, food consumption, and metabolic phenotypes. Thus, genes that modulate feeding behaviour and metabolism are often plastically regulated. Furthermore, genes that regulate behavioural phenotypes are often pleiotropic, exercising multiple independent food-related functions through multiple gene products as well as time and tissue specific expression patterns. At the molecular level, pleiotropic genes require structural and/or regulatory features that allow for pleiotropy to occur. This talk focuses on our work investigating two post-transcriptional regulation of alternate gene products in the context of feeding behaviour, and food-related phenotypes in *Drosophila melanogaster*. This includes post-transcriptional regulation of the foraging (for) gene the RNA-binding proteins PUMILIO, and post-transcriptional regulation by mRNA modifications

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